Activity: Land and Resource Information Systems

ACTIVITY SUMMARY ($000'S)

Subactivity		2002 Actual Amount	2003 Estimate Amount	Uncontrollable & Related Changes (+/ -) Amount	Program Changes (+/ -) Amount	2004 Budget Request Amount	Inc(+) Dec(-) from 2003 Amount
Land and Resources Information Systems	$	19,741	19,341	+82	-432	18,991	-350
	FTE	75	71	0	0	71	0

Activity Description

The BLM utilizes Land and Resource Information Systems to maintain an extensive amount of historical and current information about land ownership and use in the United States. The BLM faces a strategic challenge in providing customers with an effective and efficient means to use this information. To meet this challenge and respond to demands for improved access to these records, the BLM is automating its land ownership, land status, and other records. OMB Circular A-16 designates BLM the lead for three primary data themes, Public Land Records, Federal Land Ownership Status and Cadastral. This subactivitiy is the primary funding source for the automation of these data sets. Funding in this activity is used to develop and deploy new Bureau-wide systems as well as to operate and maintain existing Bureau-wide systems. The development and deployment of land and resource information systems will support the Department's Draft Strategic Plan goals by providing land, resource, and title information.

Data Automation - The BLM's records cover land and mineral ownership for approximately 700 million acres for which the Bureau has surface and/or subsurface management responsibilities for the Federal government. The BLM maintains over one billion land and mineral records dating back almost to the birth of the Nation. These records include:

- legal land descriptions.
- surface and subsurface land and mineral ownership records.
- patents and other land records that affect status.
- land withdrawal records, which identify land's withdrawn from one or more uses.

All of this information will be integrated, for the first time, in land and resource information systems, significantly improving the accuracy and availability of public land and mineral data. This integrated data will assist the BLM in determining the land's status, i.e., the current use or availability of a given tract of land or its resources for governmental or private use. The public has been provided Internet access to summary reports of these land records at www.blm.gov/LR2000.

The BLM's Geographic Coordinate Data Base is an integral part of its land and resource information systems. The GCDB contains geographic coordinates (latitude, longitude, and elevation) for the survey corners established by the cadastral surveys of the Public Land Survey System. The GCDB will allow any data that contains geographic coordinates, to be accurately analyzed and displayed on a computer terminal or printed on a map using GIS applications and tools. Additionally, the combination of GCDB and other coordinate data, in a common land database, will allow BLM users to display land and mineral information together with other resource data. The public is provided Internet access to this survey data at www.geocommunicator.gov/lsi. (Refer to the Cadastral Survey subactivity discussion in this section for more information on the GCDB.)

2004 Program Overview

The 2004 budget request is $18,9918, 991,000 and 71 FTE.

This subactivity supports the Servicing Communities mission goal from the Department's Draft Strategic Plan by providing Indian trust data. The BLM has revised its strategy, plans, and schedule for Land and Resource Information Systems development to emphasize a business-driven, modular approach. Key to this change in strategy is the development of a Bureau architecture that is driven by the Departmental strategic goals and business practices. The BLM has implemented improved project management and investment analysis procedures. An Information Technology Investment Board, composed of senior agency executives, ensures that the best decisions are made concerning the automation of land and resources information systems. This funding request reflects the implementation of BLM's new practices and strategy. In 2004, all activities will continue to promote this strategy of phased, integrated modules to provide mission-critical automation for both the BLM and public users of land and mineral information.

The 2004 focus will be upon continuing to build a strong foundation for managing land in a more powerful, graphical manner using proven Geographic Information System technology and ensuring that the system can provide a solid basis for partnerships with other government agencies. For each subsequent area of land and resource program management, data quality and business process improvement will culminate in a software module that will be integrated into an increasingly comprehensive set of land and resource information systems. These capabilities will improve the quality, quantity, accessibility, and value of the BLM's land and resource information for the public, State and local agencies, and other Federal agencies.

Bureau Enterprise Architecture - In 2004, BLM will continue to support the design, development, implementation, and maintenance of the Bureau Enterprise Architecture. The BEA will set the overarching direction and guidance for the BLM's future information technology investments. The BEA is comprised of two components: a business architecture that identifies the Bureau's business processes and the data needed to support them, and an IT architecture that identifies the hardware and software needed to house the data and support the business processes. The BEA is a top-down, business-driven, and strategically-oriented approach to planning, designing, developing, and implementing state-of-the-art technology solutions that

meet BLM's business needs. As such, its successful definition, development, and implementation will be a major factor in whether or not the BLM is successful in achieving its mission and supporting strategic plan goals.

The BEA will identify information required to support the BLM's strategic mission, re-engineer business processes, and design technological solutions to maximize effectiveness and cost efficiency. The BLM will continue to update its IT architecture through the Technical Reference Model, which describes and defines how BLM will integrate proven state-of-the-art technologies, (e.g., telecommunications, web-enabled technologies, etc.), while removing obsolete and unstable technologies from its infrastructure.

In general, all Information Technology initiatives will adhere to the Bureau Architecture and the Technical Reference Model:

- Utilize disciplined project management and investment analysis processes.
- Comply with the Information Technology Management Reform Act and the Federal Enterprise Architecture Guidelines.
- Procure or design information systems only for re-engineered business practices.
- Integrate information into BLM's daily business.

In 2004, the BLM will:

- Provide business process re-engineering expertise to improve business processes.
- Plan, prioritize, and implement data standards in accordance with the Bureau's data management plan.
- Develop business cases for corporate document management system crosscutting applications and enterprise data stores.
- Develop migration strategies from the current applications to the target applications architecture;
- Update the Technical Reference Model to guide the Bureau's IT investments towards open, scalable, and interoperable standards and technologies.
- Develop transition plans to implement the TRM through the enterprise architecture infrastructure. and maintain the corporate meta-data repository that contains the BLM's data standards.

Systems Development - In 2004, BLM will continue development of the new software modules and the associated cleanup and importing of data into the systems. BLM will work with the Minerals Management Service, on development of their paperless Sales System.

The BLM and the USDA Forest Service have agreed to incorporate tasks into a single, integrated, and collaborative effort to develop a common parcel-based land model. The goal of this effort is to automate collection, maintenance, and storage of parcel-based land and survey information to meet the common, shared business needs of land titling and land resource management. This project is called the National Integrated Land System (NILS). NILS will implement the Federal Geographic Data Committee's Cadastral Data Content Standard, which defines the data structure that will be used to store BLM and Forest Service parcel-based data for the land tenure system. This parcel-based data will support all land title transactions such as conveyances, leasing, etc. This will allow the BLM and the Forest Service to establish a common data solution for graphically displaying the public land survey system and other

boundary information. Implementation of the common land model will facilitate continued data-sharing agreements with State and local governments, which are rapidly developing their own GIS capabilities.

Operations and Maintenance - A major function of this project is operation and maintenance of the BLM's installed information technology. These systems have become an inseparable part of doing the Bureau's daily business. The requested funding will enable the BLM to continue to provide a high level of reliability and service in using its installed systems to process land, mineral, and other resource applications, permits, leases, etc. This funding will also provide public access via the Internet to GCDB and land and mineral records in LR2000 until these systems can be replaced through the Bureau Architecture efforts.

A full description of the Bureau's major 2004 information technology investments appears in Subactivity Information Systems Operations of the 2004 Budget Justifications.

In 2004, significant planned accomplishments will include:
- Maintaining the streamlined business process model of six business cases.
- Continuing to expand the knowledge of BLM's business processes and identifying potential business process improvements through subject-matter expert sessions.
- Maintaining the target architecture for guiding future system development efforts.
- Maintaining the architecture alignment criteria for evaluating IT investment proposals and advising the IT Investment Board.
- Maintaining the BLM's land and mineral records on the Internet.

2002 PROGRAM PERFORMANCE ACCOMPLISHMENTS

In 2002, major accomplishments in the Land and Resource Information Systems program included:

- Projected cost savings of approximately $4 million dollars were realized as a result of technology reviews, server consolidations and consolidated IT procurements.

- Partnered with the U.S. Geological Survey, the Fish and Wildlife Service, and the National Park Service for the E-GIS program to develop a E-GIS target architecture, which was approved for piloting as an enterprise architecture.

- Utilizing IT best practices, the BLM completed acquisition of the Technical Reference Model Volumes I and II, Version 2.0 that incorporate the technical specifications and principles.

- Established a standard methodology and tools from the Business Process Reengineering (BPR) Laboratory, for the BPR experts to use in aiding process owners in improving their business processes.

- Established a process for consolidating all architecture models from several disparate toolsets into one integrated repository tool, through the Popkin System Architect, which aids in better architecture analysis and reduced program costs. BLM can now readily click in

Internet from a business process to the data that is needed to support that process and the related applications and technology.

- Identified gaps and overlaps in the current systems and developed guidance for future development by mapping 40 existing national applications to the Bureau's business processes and data.
- Established future system development guidance through the development of a target architecture process.
- Conducted an evaluation of architecture system designs, based upon established alignment criteria to ensure compliance to the architecture.
- Reviewed two NILS modules and performed an architecture assessment evaluation.
- Developed a link for BLM land and mineral records to be available to the public through the Internet.
- Completed construction of the National Test Laboratory to support a wider range of simultaneous IT systems testing and mitigate risks associated with technology deployment.

2003 PROGRAM PERFORMANCE ESTIMATES

In 2003, major accomplishments in the Land and Resource Information Systems program include:

- Complete the evaluation of the Technical Reference Model versions I and II, which provide principles, best practices, and technical specifications for IT infrastructure acquisition and management.
- Expand knowledge of BLM's business processes and identify potential business process improvements through subject-matter expert sessions.
- Develop a streamlined business process model, reducing nine business process areas to six for easier analysis.
- Determine what data is needed in each business process. This information will be used to prioritize standardization of the data that supports these business processes.
- Map 17 existing national applications to the Bureau's business processes and data. This information will be used to identify gaps and overlaps in our current systems and guide future application development.
- Develop a target architecture to guide future system development efforts.
- Establish architecture alignment criteria to evaluate IT investment proposals.

- Complete construction of a National Test Laboratory to support a wider range of simultaneous IT systems testing and mitigate risks associated with technology deployment.
- Began to incorporate an Enterprise Architecture Infrastructure planning methodology into BLM's IT acquisitions to improve capital asset planning and operational implementation.
- Development and publishing of the target applications architecture (TAA) that is E-GOV centered and strategically aligned.
- Continuing to provide BPR support and expertise to improve and streamline BLM's business processes.
- Maintaining the target architecture for guiding future system development efforts.
- Maintaining the architecture alignment criteria for evaluating IT investment proposals and advising the IT Investment Board.
- Maintaining the BLM's land and mineral records or the Internet.

JUSTIFICATION OF 2004 PROGRAM CHANGES

2004 Program Changes

	2004 Budget Request	Program Changes (+/-)
$(000)	18,991	-432
FTE	71	0

The 2004 budget request for Land and Resource Information Systems is $18,991,000, a program change of $-432, 000 from the 2003 requested level.

Information Technology, (-$432,000) - The Department and BLM are undertaking significant information technology reforms to: improve the management of IT investments, enhance the security of IT systems and information, and realize short and long-term efficiencies and savings. The Department is taking a corporate approach that will include consolidated purchases of hardware and software, consolidation of support functions including helpdesks, e-mail support, web services, and training. Savings will be possible by reducing, but not eliminating, IT support services at Bureau field offices and consolidating these services at the national level.

Reductions to specific BLM IT systems are also proposed. These reductions are possible because of deferring or canceling system enhancements on the Management Information

System; the Federal Human Resource Information System; the Smart Card program; the Corporate Metadata Repository; the IT Enterprise Information Portal; LAWNET, which tracks law enforcement incidents and responses; Tivoli, a management tool that permits updates of software from remote locations; and Nobility, which standardizes the Bureau's efforts to automate the NEPA process.